



07/05/2015

## WSH Circular: Safe Use of Storage Racks

### FACTORIES WITH WAREHOUSE STORAGE

Several deaths have occurred in warehouses over the last 2 years due to the collapse of storage racks. One of the common findings is that the storage racks were not properly designed for the intended storage loads.

In 2014, a stack of 2 racks storing fruit crates suddenly gave way and collapsed onto deceased worker, killing him instantly. This year, another death occurred when a stack of 3 storage racks collapsed and pinned the deceased under the stored sacks of sugar.

Occupiers and employers engaged in warehouse and storage operations are reminded to take all reasonably practicable measures to ensure that the storage racks at your workplace are safe for use.

You may refer to Annex A for guidance on some of the relevant WSH requirements. The Ministry of Manpower will be stepping up inspections and enforcement actions will be taken against any errant occupiers and employers.

Yours faithfully,

**GO HENG HUAT**

Deputy Commissioner for Workplace Safety and Health

## Useful Info

### What to do next

Step 1. Check your existing storage racks to ensure that they are designed for the intended storage load and have been properly installed.

Step 2. Perform a risk assessment on the use of storage racks.

Step 3. Establish a maintenance regime for the storage racks.

MOM is stepping up inspections. Possible enforcement actions include Stop Work Orders, Remedial Orders, Prosecution and Composition fines.

Resources for safe warehousing operations can be found on WSH Council's website  
<http://www.wshc.sg/>

Under the Workplace Safety & Health Act, companies that fail to take reasonably practicable measures to ensure the safety and health of their workers and any person in the workplace can be fined up to \$500,000 for a first offence.

## Annex A - Relevant WSH Requirements for Safe Use of Storage Racks

*The following is a non-comprehensive list of relevant WSH requirements.*

### 1) Design Consideration

The design of storage racks must allow for safe use and maintenance. The following should be considered in the design of storage racks:

- a) Storage racks must be structurally stable and designed with the intended use in mind (e.g. weight, volume, shape, dimensions, environment to be used in etc.).
- b) The safe working load of the storage racks should be prominently displayed. In particular, if the storage racks are stacked, the lower racks must be designed to take into account of the weight of the upper racks and their corresponding goods.
- c) There should be safe means of access to the goods being stored, including proper work-at-heights measures.
- d) The physical environment where the storage racks are to be used should be considered. For example, racks that are placed in areas where there is vehicular movement (e.g. forklifts, reach trucks etc) should be designed to withstand impact from possible collisions. In a cold room environment, temperature swings may require special considerations for corrosion protection due to moisture and other effects on the structural integrity of storage racks.
- e) A re-assessment of the storage rack's design should be carried before any change of use, including a change in the nature of goods to be stored.

### 2) Use of Storage Racks

The following measures are to be taken when using storage racks:

- a) Use of storage racks should be carried out in accordance with the manufacturer's instructions.
- b) Conduct a risk assessment for the use of the storage racks.
- c) Establish safe work procedures for work activities involving storage racks. The procedures should include confirming that the combined weight of the intended goods to be stored does not exceed the safe working load of the racks. In particular, if the racks are stacked, the bottom racks must have sufficient loading capacity to hold the racks and goods stored above.
- d) Ensure that warehouse personnel made aware of the safe working loads and are trained on the safe work procedures for stacking and/or storage of goods.

### 3) Maintenance of Storage Racks

The following measures are to be taken when maintaining storage racks:

- a) Maintenance of the storage racks should be carried out in accordance with the manufacturer's instruction.
- b) Storage racks and accompanying accessories (including pallets) should be regularly inspected to ensure their structural integrity (for example, no signs of damage or corrosion). Any defective part must be repaired or replaced before use.